

character and violate its limits, if we introduced into it an animal with so singular a structure as *Cryptoprocta*.

This animal must, therefore, form a peculiar group approaching most nearly to the cats; and in order to represent exactly the relations which it has to the genus *Felis*, it would seem necessary to unite it with those animals in a tribe which would then be subdivided into two families, one including the digitigrade, and the other the plantigrade Felinæ.—*Comptes Rendus*, August 5, 1867, pp. 232–235: abstract.

A way to determine Trichopterous Pupæ.

By A. E. EATON, Trin. Coll. Cam.

Having been asked in what way the pupa-skin described in the last June Number of this Magazine was ascertained to be that of *Brachycentrus subnubilus*, Curt., without rearing the insect, I will briefly indicate it, with a view to the removal of any doubt that may be entertained respecting the correctness of the determination. 1st, by observing what species is, or are, most abundant in a certain locality at a given time; 2ndly, by collecting from patches of weeds the sloughs of pupæ, and putting together those which correspond in size; 3rdly, by making a comparison between the leg-spurs, the neuration of the wings, and the palpi of the slough and those of the adult state of the most probable species, it is not difficult to refer a pupa-skin to the proper insect. This done, by dredging up occupied caddis-cases, the living pupa (and thus the case also) of the species can be discovered.

On the Spontaneous Movements of the Leaves of Colocasia esculenta (Schott), and on the Ejection of Water from them in a continuous jet. By M. MUSSET.

M. Lecoq has published*, in the 'Comptes Rendus' of the 22nd of last April, some very interesting observations on the spontaneous movements of the leaves of *Colocasia esculenta* (Schott).

"Several times he had the opportunity of witnessing violent fits of shaking, among others on the 20th of January and 2nd of March. On the latter day, in the morning, although the temperature of the stove was lowered to 7° C. (=45°·6 F.), the agitation was considerable in all the leaves, both old and new, without exception: it is an actual febrile movement, a very violent shivering."

These facts, except as regards intensity, are identical with those that I have sometimes witnessed, in observing the ejection of water by the leaves in veneration of *Colocasia esculenta* †. This was sometimes a sort of vibration impressed upon the convoluted and erected leaf, sometimes a waving of the expanded leaf, sometimes a rustling in the interior of the mass, which was composed of a hundred leaves of every dimension, from 0·1 to 1·10 metre in length.

* See *Annals*, ser. 3. vol. xix. p. 439.

† See 'Comptes Rendus,' tome lxi. p. 682, October 23, 1865, and my memoir in 'Ann. de l'Acad. des Sciences de Toulouse,' 1866.

These movements and these noises have often distracted me from my other observations, but without striking my mind, which was absorbed by the study of the ejection of water. I ascribed them, without accounting for them, either to the agitation of the atmosphere, to some of my own movements, to the hasty flight of some bird concealed in that impenetrable mass of foliage, or to an error of the eye produced by the fatigue which always follows too prolonged tension of the sight, &c. &c.

The observations of M. Lecoq are therefore to me a plain and genuine explanation of a very curious phenomenon which he has the merit of being the first to discover and to study with the sagacity which is habitual to him; my only aim is to confirm a new fact, and one which may appear extraordinary.

M. Lecoq says in his note that he had never been able to observe the fine drops that I have seen so often shoot from the vulvoid region situated underneath the apex. He himself gives the cause of it when he states that the membrane which covers that region is, in the leaves of his plant of *Colocasia*, imperforate. This imperforation (or, rather, this absence of large stomata, orifices of ejection) is extremely rare in the leaves of the species of *Colocasia* that I cultivate in the open ground; I have only detected it in the proportion approximately of 1 to 80. I am surprised that all the leaves observed by that learned naturalist should have presented this anomaly of the imperforation of the hymenoid membrane. Does this depend on the mode of culture, or on a difference of species? Eleven leaves of two plants of *Colocasia*, cultivated in a hot stove, have likewise never presented the least trace of gaping stomata. Be this as it may, M. Lecoq would perhaps see a certain relation of cause to effect between the spontaneous movements of the leaves and their imperforation. My own observations are not favourable to this hypothesis.

I take advantage of this opportunity to say that this year the leaves in vernalion have furnished me with still more remarkable results than those referred to in my memoir. My observations date from the 1st of May to the 15th of November. Now it is in the month of June, at the period when vegetation is in all its vigour, that the ejection of the water is also most vigorous. I have seen some convoluted leaves which, during cool evenings, emitted a continuous jet. Careful watchings certainly betrayed a slight intermittence; but it was absolutely impossible to count the drops, the number of which constantly exceeded 200 per minute.—*Comptes Rendus*, May 13, 1867, pp. 979–980.

On two new forms of Plants parasitic on Man (*Aspergillus flavescens* and *A. nigricans*). By ROBERT WREDEN.

From the 25th November, 1864, to the 25th May, 1867, I had the opportunity of observing the development of two new forms of
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